

Table 13.1. Summary of influences across the range-wide distribution of greater sage-grouse and sagebrush habitats. Only influences for which we could develop a spatial estimate of area of influence were included in the summary. Other influences, such as livestock grazing, have more diffuse effects exerted unevenly across the sagebrush biome and could not be included in this analysis. Two buffer sizes were considered, based on ranges reported in literature sources; the high value was reported when only one buffer size was calculated.

	Total Area (km ²)	Conservation Assessment Area ^b (%)	Buffer Size (low/high)	Area of Influence					
				Effective Area ^a (km ²)		Conservation Assessment Area (%)		Sagebrush Area (%)	
				Low	High	Low	High	Low	High
Sagebrush Area^c	481,384	21.6							
“Natural” Disturbance									
Fires (1990-present)	79,755	3.9							
Shrub brown out	2,544	0.1							
Agriculture									
Cropland	248,975	12.1	2.5/6.9 km ^d	740,760	1,152,157	35.8	55.6	23.7	48.5
Irrigation canals	6,916	0.3	2.5/6.9 km	193,175	462,146	9.3	22.3	8.2	23.2
Urban									
Urban development	1981	0.1	6.9 km		75,191		3.6		2.1
Landfills	196	>0.1	2.5/6.9 km	22,650	137,954	1.1	6.7	1.0	6.1
Interstates/highways ^e	14,272	1.0	7 km		841,927		40.6		37.2
All roads	159,279	7.7	2.5/6.9 km	1,768,793	1,912,463	85.4	92.3	95.1	99.6

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Railroads	137	>0.1	3 km	183,915	183,915	8.9	6.1
Powerlines	15,296	1.0	5/6.9 km	672,344	837,390	40.4	40.3
Communication towers	95	>0.1	3.2 km		99,135	4.8	3.6
Energy Development							
Oil/gas wells ^f	1960	0.1	3 km	393,744		19.0	21.0
Pipelines ^g	2,790	0.1	1 km	116,571		5.6	6.9
Wind energy ^h	35,354	1.7	5 km	383,705		18.5	14.9
Military Training							
Installations/training	26,043	1.3				1.3	1.5
Recreation							
Rest Areas	8	<0.1	2.5/6.9	5,313	94,396	0.3	4.4
Campgrounds	84	<0.1	2.5/6.9	46,143	238,811	11.5	7.3
Cumulative Total							
Low Influence				2,027,516		98.2	
High influence					2,057,209	99.7	
							99.5
							99.9

^aEffective area was the total area of the individual effect plus the area included surrounding in the buffer zone.

^bThe total area included in the Conservation Assessment Study Area was 2,062,872 km² (Chapter 1).

^c(Comer et al. 2002, this study) (Chapter 1). Sagebrush area in the eastern portion of the Conservation Study area, including Montana, North Dakota, and South Dakota are likely underrepresented (Chapter 1, 5).

^dRange of foraging areas for nonbreeding common raven (*Corvus corax*) (Boarman and Heinrich 1999).

^eBuffer value determined from this study of 1-80 (Chapter 13).

^fEffective distance of influence of oil/gas construction activities on sage-grouse nesting (Lyon and Anderson 2003).

^gDistance for spread of invasive plant species away from road disturbance (Gelbard and Belnap 2003).

^hPercent of potential area in high category